

2.3 GRAPH LINEAR EQUATIONS (Standard Form)

Horizontal Lines

The graph of $y=c$ is a horizontal line through $(0,c)$.

Vertical Lines

The graph of $x=c$ is a vertical line through $(c,0)$

Standard Form

$$Ax + By = C, \text{ where } A \text{ \& } B \text{ are not both zero}$$

intercept: ~~x-intercept~~ x -coordinate of the point where the line intersects the x -axis

GRAPHING EQUATIONS IN STANDARD FORM

- ① Write Eqn in Standard Form
- ② Find the x -intercept: let $y=0$ and solve for x
- ③ Find the y -intercept: let $x=0$ and solve for y
- ④ Draw a line through the points

Ex 1 $2x + y = 8$

$$2x + 0 = 8$$

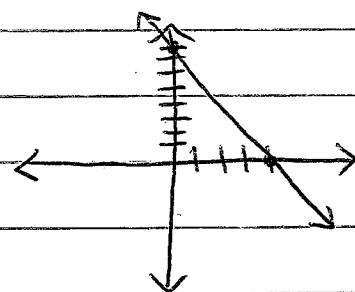
$$2x = 8$$

$$x = 4 \quad (4, 0)$$

$$2(0) + y = 8$$

$$y = 8$$

$$(0, 8)$$



Ex 2 $3x + 4y = -10$

$$3x + 4(0) = -10$$

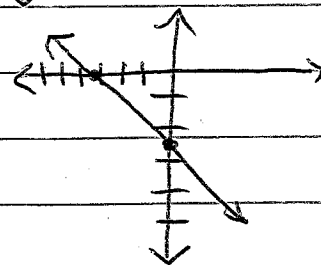
$$3x = -10$$

$$x = -\frac{10}{3} \quad (-\frac{10}{3}, 0)$$

$$3(0) + 4y = -10$$

$$4y = -10$$

$$y = -\frac{10}{4} = -\frac{5}{2} \quad (0, -\frac{5}{2})$$



Homework: p. 86 # 34-39 all, 40-50 even